[INTRODUCTION]

[0:00:05.0] DC: It takes the right skills and the right innovation to design and manage meaningful print marketing solutions. Welcome to Podcast from the Printerverse, where we explore all facets of print and marketing that creates stellar communications and sales opportunities for business success. I'm your host Deborah Corn, the intergalactic ambassador to the Printerverse. Thanks for tuning in. Listen long and prosper.

[INTERVIEW]

[0:00:33.8] DC: Hey everybody, welcome to the Podcast From the Printerverse. This is Deborah Corn, your intergalactic ambassador, and today, we are beaming into the future. We are speaking to Madhura Mahajan, she is the Head of the Department of Printing and the Dean of IQAC, which she will explain to you, at Pune VG College of Engineering and Technology in Pune, India.

For the last 26 years, Madhura has been involved in academics as a teacher, a mentor, and a student advisor, serving on committees and participating in professional organizations. She wrote, "It is my responsibility to encourage and nurture students' talents, make them aware of industry needs and be adaptable and prepare them for successful careers in printing." Welcome to the podcast.

[0:01:31.1] MM: Thank you so much. It's a pleasure and honor to talk to you and I think Deborah Corn is a name which I've been following since so many years, I would say, on LinkedIn, and I'm absolutely privileged and pleasure to talk to Deborah. Thank you for having me.

[0:01:49.3] DC: Thank you so much, I feel exactly the same now. Just one time, in case I mess it up, can you say your name correctly for everybody, please?

[0:01:58.0] MM: Yeah, sure. So it's an Indian name, so it's Madhura Mahajan and as rightly said by Deborah, I am from Pune, a city close to Mumbai and Mumbai being the financial capital

of India. It's great to talk on this show and institute to which I belong and I have been serving since the last 27 years or so. It's known as Pune Vidhyarthi Griha's College of Engineering and Technology.

Another institute, which has been now merged with our engineering. It is a management institute and that's why we have a longer name on my LinkedIn profile. So it's PVGCOEG and GKPWIM and we have – you know, there are – since this is a four years printing and packaging engineering program, running since 1985, we have many of our students working in the US industry in the print and packaging sections.

[0:02:58.1] DC: That's amazing and thank you so much for pronouncing the name of the school. I did try before the podcast but everybody, I gave up. It was a difficult one. Okay, first question, why did you become an educator and thank you for your service to the world.

[0:03:14.7] MM: I mean, the story goes back 27 years. So when I joined the institute. Prior to that, I was working in the industry so I do have an industrial experience and where I was working in Mumbai for a couple of months actually for almost a year and then I came back to my city and then I worked again in the industry for a few months, and then of course, I wasn't married that time and it was the influence of my mom, my mother, who is also a teacher.

So she had a very strong influence, which I have also mentioned in my earlier podcast, which I had recorded a few months back. So you know my mom is one of the influences and she was insistent that it's a good rule and a good job for women to take up teaching, apart from the noble cause and you know, the service to the society at large but you know on the personal front, at the homefront, you know, you don't have to work late nights and you don't have to work in shifts.

So you know, you don't have to travel very far and you don't have to travel out of your city on many occasions but things have changed today and you know it's no longer what it was, you know, what my mom taught but nevertheless, it's still been an incredible journey. So I will say, my mother has been the key inspiration. I've seen her as a child, the way she has helped her students, the way she has, and not the way she used to. I explain things about her role in her institute, so that's kind of been a motivation for me as well.

[0:04:50.8] DC: I will link to your prior podcast so people can get some more background information about you. Can you share about your current role as the Head of Department Printing and dean of IQAC and what that means, what is IQAC?

[0:05:09.5] MM: I, since, as long as 27 years that I am in this department, my goal from day one was as I said, you know, to help nurture students for their talent. At that point of time, things were totally different, technology was totally different and it was you know, the endeavor of the teacher to let students know what is offset, to let students know how a printing machine works, what goes into that offset printing machine, how a plate is made, and you know that's how the journey began because it was only newspapers.

It was magazines I know which were flourishing very well during those days, and then gradually, things changed and you know, that was slowly getting incorporated in the curriculum, which was being taught to the various batches and almost from 1997 to today, that is still day 2019, this was the last revision in the syllabus or the curriculum. So these are the changes which we have witnessed.

So my role today is – so, I'm working as a HOD, Head of Department, since 2018. So almost close to five years now and prior to being a HOD, it was my job to inculcate all these new technologies in the curriculum, try to build up labs or you know, takes students to industry, where they can see these technologies but now, as an – in the shoes of HOD, you have to actually also execute things.

Working on various research ideas, working on all the administrative role that a typical head of department has to follow on a day-to-day basis to make sure that lectures, practicals, those status happening on time, where the teachers are coming on time, and you know that's also happening but apart from that menial role, which of course, I do enjoy that as well, things such as, as I said, there are various research projects which we are encouraging.

Where all my faculty members are working on varied areas, such as from printed electronics to digital printing to waste segregation management, or you know it could be even, let's say, you know, different types of packaging materials, sustainable packaging materials, or it could be color management, and that is one of the, you can say, learning methods, you know? Hands-on

learning methods, which gives the students to learn through the problems, which are taken up in the projects.

So that's how, you know, to summarize, it's like admin work, you know, students issues, faculty issues in the department as well as, you know, exciting work from the industry.

[0:07:54.7] DC: I want to just circle back to research for a moment. You mentioned that your department does research and I think that you described sustainability. How is sustainability in India go together? Is it a very topical thing there and you know, they're recycling like we have here on those? You know, there's a lot of laws around recycling in Europe and in America. I've actually never asked anyone from India if any of that applies.

[0:08:21.0] MM: It's a topic, of course, being discussed far and wide. Yeah, the laws or regulations are getting in place, okay? They are – they were not in place earlier but they are being implemented or the policies are getting developed and slowly and eventually, there is awareness being created at all levels in the society.

So right from school children to college-going kids to you know, working professionals, homemakers, or it would be, you know, even industry people. So it's a growing awareness and that's kind of coming through a lot of advertisements. It is coming through a lot of initiatives, which industry is also taking. Say, for example, print industry, the ink manufacturers or the paper manufacturers, or even machine manufacturers are very consistently aware.

Showing awareness in there, maybe their carbon footprint getting generated in the companies or it could be, you know, I mean, that is how neutral carbon is there or how much neutral carbon is there or it could be, you know what kind of — are they really trying to use plastic and to what extent and you know, whether that plastic — and you know, the circular economy concept is also being rolled out pretty effectively as to the people are, really the manufacturer is actually showing concern as to how his material is getting or going to get recycled.

So that's the awareness at all levels. I'm sure it's at a primitive stage, it is surely being discussed but I'm sure, it will grow eventually and you know, there will be nuance, there will be policies, there will be rules, which will eventually help things, you know, to get into place.

[0:10:05.2] DC: Yeah, you got a lot of people over there using a lot of resources, obviously. So I'm glad to hear that you are on your way. Speaking of research, I did a little on the undergraduate courses that your college offers, and they are mechanical engineering, electrical engineering, electronics and telecommunication engineering, information technology, computer engineering, artificial intelligence, and data science, and then there lies printing engineering and graphic communication, which is like, if you almost looked at the list, you'd say "Ha, how did that get there?"

Can you please tell us more about your program, starting with how you are defining printing engineering and how graphic communications fits into an engineering college?

[0:11:02.7] MM: Yeah, the college itself started with this program. So the name of the college initially was College of Printing Engineering and Graphic Communication. So 1985 was the starting point, admissions all over the country. You could see people coming from all over India for this program and then, slowly, in other branches of the programs, such as mechanical, electrical, and electronics that got started in 1991.

So obviously, we had to change the name of the college, so it became College of Engineering and Technology, and then because of the boom in the IT sector, you know, we had to also add computer science and information technology, and today, we also have artificial intelligence and data science. So in total, we have seven branches, seven programs being run. Printing engineering and graphic communication is like basically, we taught engineering in this.

So it is a four years printing engineering program, where the first year of engineering is common for all the programs. So be it mechanical, be it electrical, be IT, comp, whatever, computer science, so it's all printing across all the entire university, across all the branches the first year is common. Then the second year on most tier-one specialization begins and that's how students come here and to keep a tab on the engineering part, we have also included subjects of engineering in second year, third year, and then finally, restore printing packaging, likewise. So printing. Now, this name has also been changed to printing technology only, right now. So, currently, our title is printing technology, and – but we have – are in the process of changing the name to printing and packaging, and we have started the many courses on packaging. So packaging subjects are being included and so when we have sent this application to the

university for the name change, it will be easier for them because they would see that things are already in place in the curriculum.

So that's how it is right now, focused on printing technology but slowly moving to printing and packaging on where we are having subjects not just on engineering, where there is math, there is science, there is electrical engineering, there is the subjects on electrical, then there is microprocessors, there's digital electronics and you know, printing machines and along with various printing subjects such as Offset, Gravure, Flexo, screen printing, digital printing, layout and designing and you know, just starting the prepress.

So layout and designing and in position for print applications, layout and designing for packaging applications. Likewise, these courses are included for – from the printing perspective so that the students get an opening in the print industry. Now, the inclusion of packaging subjects, the students can also have an opening, job opportunities in the packaging industry. So we have started with the package testing and sustainability, then food and pharma packaging and you know, so on and so forth.

So this will also give them an opening in the packaging field. So just kind of widening the horizon.

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[INTERVIEW CONTINUED]

[0:15:28.2] DC: I love it and you know, I mean to me, it makes more sense to call it printing and packaging, and graphic communication. Engineering is so often associated with like circuit boards and things like that. Although I have to say that I have spoken and visited at many colleges and university and I have found that there are former students who had engineering majors who actually switched into the graphic communications program specifically for packaging because they're packaging engineers.

I mean, if you want to be an architect, you could build a box too, you know? A very complicated box, so a very comprehensive program. Okay, you mentioned digital printing and I'm glad that you did because often in the United States, India, Indonesia are used as perfect examples of countries that have hundreds of languages within them, and newspapers, and materials are often printed in all of these different languages so that people can make decisions the best that they can or learn about something the best that they can.

Are you seeing in the print shops or in the material or in the way that you're comparing students to exit your college that you're focusing more on digital printing or is it still comprehensive across all the mediums that you mentioned before?

[0:17:01.0] MM: Yeah, we do encourage to raise more digital printing. It's not so that offset or Gravure or Flexo has taken a downturn or something of that sort. It is still on off a high note and there are still of course but they are majorly for packaging as of now and today, we can see that digital printing is being used for commercial printing as well as now it is being added in the packaging field.

So we have, I know we do visit the HP center, which demonstrates their HP digital printing machine, where the entire packaging printing can be seen. So we do encourage digital printing because we definitely see it as a future, plus it is going to give you the opportunity to have variable data printing and know or wherever you will – let's say you want to send it to North India, their languages are different.

Maybe East India, their language is different, their script is different and I know South India again, you know that's the same thing. South India there are four states, all of them have different script so likewise, it will be easier. I mean, it's not that it wasn't done before. It was

always done and has been carried out. In a way, you needed packaging, labels, or books for a particular region for them to follow instructions or you know, read the label of the front page.

[0:18:27.1] DC: Yeah, digital printing and inkjet printing, which is digital printing in an offset scale in many cases, I'm not talking about you know, necessarily like packaging but definitely is a much easier and honestly, a more sustainable way if you think about the resources that are applied to an offset press versus a digital press.

[0:18:50.0] MM: Correct. However, since the number of copies required in India are far too many so we'll know there are. You know, maybe there could be a job order of 50,000, there could be a job order of one lack or 10 million, one million, or so on and so forth, which is still today needed for many things. Like, let's say, for example, you know the booklet, which comes with your television set, you know, the instruction manual.

So maybe that could be required in large quantity and so probably that for such a process, I think I mentioned a third although using many resources would still have a better economical and you know time's perspective option.

[0:19:36.0] DC: In other words, a lot of print, printed materials in the United States is going away because we can send people online to get information that used to be printed like the manual that you mentioned. Is this situation in India moving that way or there's just too many people not online to disregard printing manuals and putting them in like television boxes?

[0:20:02.2] MM: It is still very much the in thing in India as of now but slowly of course, eventually we will see that the digital link is going to take over this. It is going to take some time, okay? Because people are still you know, very used to opening that book or opening that packet from the television and opening the – whether it is mobile or whether it is not the mobile package or the refrigerator package or whatever.

So they would be still be happy to open the manual, read it, or you know, even to the extent of car, the manual which comes with the car which they are going to buy. So that's something which they would keep it, preserve it, you know, and read it whenever needed. So that is still

very much there and that's pretty much, you can say – I mean, these job orders are still live and in action but yeah, as you said, the Internet and the digital platforms are growing.

The new generation will eventually stop using it, I'm sure about that, and slowly, that's going to be on the decline.

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[INTERVIEW CONTINUED]

[0:22:00.8] DC: To your point, I have the car manual in my glove box but if I can't figure out what a switch is or I had a – I had almost had a nervous breakdown trying to figure out how to unlock my hood and I just went to YouTube and it was a lot easier than looking through the manual but I hear you, I still have it just in case. It's always good to have something like that. Okay, in the United States, we have a significant printing industry workforce shortage.

People just do not want to work in the printing industry. What is the situation in India and what is the situation with women in print in India? And I will preface it by saying when I, unfortunate enough to visit universities, I find that most of the graphic communication classes, the marketing classes, the printing classes have women in them. It's overwhelming but we don't seem to get them into the industry after that. So please tell me what's going on in India.

[0:23:02.5] MM: So answering to your first question that is the workforce in India, there is no shortage of workforce in India, okay? So there are people here available to work at different stages. What is lacking here is the very niche areas where you require highly skilled people, okay? Now, where is that? I mean, that's like you know, when you want to do something extremely specialized job or the machine is fully automated and you want to run it.

It's completely sophisticated, automated, and has a lot of controls or maybe it's difficult for normal experienced workforce who has just, you know, worked over for many years in the industry it becomes difficult for him to take over. In that case, it is important that skill has to be provided. So for that, there are these schools, okay? The printing schools. There are printing schools, which give you engineering degrees.

There are printing schools, which give you diploma, we call them three years diploma. I mean, as engineering is four years, plus there is a vocational course, which gives them again, the three years program. So like this for every and plus you know, you have maybe there are some school dropouts, college dropouts who would still like to work in the print industry who get trained by the senior staff there.

By their experienced staff there and then they take over and then keep on working year after year but what is lacking is, so manpower is there, students are there, technical staff is there but highly skilled people are however still missing. So you know where highly sophisticated machines are getting imported from other countries. So probably at that point of time, they do look out for manpower.

So that's where I feel there is still a gap. Talking about girls, they do enjoy the course. They do like it, they do complete their four years. Some of them do pursue it further as their career, so there are many of our alumni who are you know, at very good positions in the industry, maybe handling already high major portfolios in their companies but some of them work in marketing, some of them work in planning.

Some of them work in designing, quality control. So that's how the portfolios are, some very few or you can say you know, a very negligible count works in the production, where probably the industry works in shifts but there are girls who will work in the ink industry, in the paper

manufacturing industry but the rules are for marketing or customer support but they do enter. Otherwise, if they do not pursue their profession in this industry, they switch to IT or software industry.

[0:25:55.8] DC: Okay.

[0:25:56.6] MM: So that's also a good choice.

[0:25:58.0] DC: Yeah, it sounds like they're completely covered. That's a great fallback, tech career. "Oh, well, I could always be an IT person." Oh, can you? Maybe tech should be your first choice in the world that it is today, yeah? So how do we encourage the younger generations to want a career in print? What sort of recruitment does your college do?

[0:26:21.2] MM: The young generation, I mean in fact, I guess any graduate will, you know, undergrad or graduate who is passing out is definitely looking for a good job, okay? I guess today, it's the salary, okay? So what salary is being offered? And he or she is going to look at the sphere, right? So if the spheres are not getting a better package, he will always be attracted to the other companies and IT is one such industry, at least in India where you know they are having excellent pay packages.

So that is going to be always an attraction on the undergrads. So if the pay packages are good and if the industry is ready to pay, then the younger generation will definitely like because the courses are good. The placements are good, there are companies who come in and recruit students in the campus. So there is campus drives, which take place and you know almost all the students get jobs because most of them require a job.

Some of them have their own print forms, had their own family businesses to take care of, some of them go for higher education to the United States or to Germany, and all of them, some of them switch to higher education in India as well. There are some very good packaging post-graduation schools here as well. If industry is paying, the young generation will always get attracted. Now, the industry doesn't pay.

Now, what is the reason? As far as my knowledge goes, I think the industry is not sure about how much steady is their jobs, right? So it is very unpredictable that today, I mean, though they have their orders for the month booked, they do have orders for their quarter or you know, for the entire book but you don't know, you would never know what trend will pick up in order to switch to an online work.

So it could be like today, a direct mailer with something, which is coming into your doorstep and you know being posted but then today, we are all getting messages on our mobile phone or you know, the ads popping up in our personalized accounts or in Facebook in whatever you see and whatever you read or whatever advertisements you browse through all pop-up and you are getting all that in the form of direct mail.

So you never know how trends would change, you know what people would like to buy from where or how business course would be different. Maybe it was different in the first quarter, it is different in the next quarter. So it's a little uncertain I would state in many cases for the print media as to where it would be difficult for them to pay a high package.

When you talk about packaging industry and where the larger presses are there who would hire undergrads as trainees with them but these are very few in number because you need a high setup and you need bigger sized machines, you need the entire converting part, plus you need some pre-press and designing and you know, all the marketing team. It's good investment, a good amount of investment.

So it's either the number of bigger or large-sized companies should increase in order to – for those companies to pay more. Actually, for example, there are *Times of India*, it is one of the biggest newspapers in India, just like how *New York Times* is in the US. So that is one of the biggest newspapers and it is also giving good salaries. So you know for somebody who is working in *Times of India* has all the privileges, has the salary, has you know?

But the only thing is he has to work in the night shift because newspapers are being printed in the night. So that's how it is.

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[INTERVIEW CONTINUED]

[0:30:51.1] DC: I think you make a really excellent point and something I completely agree with. Students need to see that their entry-level salaries are comparable to other industries and they need to understand their career path in a printing environment or at a press manufacturer even at a newspaper. It is very important to that generation to understand you know, what their future is maybe in a different way than us, where we had to create our future, you know?

In a lot of the younger people I speak to, I feel like they need to understand their future before they invest in any time on that path, you know? So very interesting. I just want to thank you so much for your time for sharing this information and of course, for your service to the world. I think teaching is one of the noblest professions out there underrated, unappreciated, and I just want to thank you so much for all you do to help people become people.

That's really what schools and teachers do and I wish everybody had a good educational experience. I think the world might be a different place if that actually happened. Everything you need to connect with Madhura and learn more about her school will be in the show notes. Any final words before we wrap this up?

[0:32:12.0] MM: We all know that India is growing and you know, there is a lot of opportunities here as well. Well today, the world looks upon US as the land of opportunities. You know, there is everything being manufactured I think, that's what I look at is as this huge production of everything in the US because there's the huge demand for everything. So it could be packaging, it could be cars or it could be infrastructure.

Engineering the Future of Print with Mudhura Mahajan

Transcript

So in the same way, India is also growing exponentially and there is a lot of research concepts being included in all the schools. It could be printing or any engineering schools for that matter and I think we are very happy and would be very happy to serve and you know, provide our expertise to whomsoever, who would like to share their problems with us, any industry problem or where they feel that they do not have the time to invest in it or they feel that they do not have the necessary resources such as manpower.

We are open for it and I think that can – and in that way, we can build a better world, you know, all throughout.

[0:33:26.4] DC: I love it, let's build a better world. Until next time everybody, print long and prosper.

[END OF INTERVIEW]

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[END]

Mentioned in This Episode:

Madhura Mahajan: https://www.linkedin.com/in/madhuramahajan06/

Ink Stories: https://www.youtube.com/@inkstories3525

'Is there a future in printing engineering?' I Madhura Mahajan I Ink Stories Ep - 22:

https://youtu.be/axdBly7YbZU

Printing Technology — PVG's College of Engineering and Technology and G. K Pat (Wani) Institue of Management:

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